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Technology Center 2100

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 09/954,508
Filing Date: September 14, 2001
Appellant(s): TODOROV ET AL.

Mark Joy
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed June 29, 2007 appealing from the Office

action mailed August 9, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

| 6,430,598 | DORRANCE | 08-2002 |
| 6,718,550 | LIM | 04-2004 |

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorrance

et al., (hereinafter Dorrance) U.S. Patent No. 6,430598 in view of Lim et al.,

(hereinafter Lim) U.S. Patent No. 6,718,550.

3.   As to claim 1, Dorrance teaches the invention as claimed, including a process data

access server enabling client applications incorporating potentially multiple differing

data exchange protocols to access process data stored at potentially many different

locations in a process control system, the process data access server comprising: a

device protocol interface facilitating accessing process data storage locations within

the process control system (fig,2, 12 connect with data storage system 44); data

exchange protocol modules enabling client applications to request access to process

data storage locations via the process data access server according to particular client

data exchange protocols supported by the set of client data exchange protocol

modules (Fig.3, protocol converter 65) (see col.6, lines 7-25); and a data access server

engine (fig.3, server 62) for executing process data access requests, received by the

process data access server via the set of client data exchange protocol modules (Fig.3

converter 65), by accessing, via the device protocol interface, data storage locations

(Fig.3 message store 66) corresponding to the process data access requests, and

wherein the data access server engine includes a client application data exchange

protocol (Fig.3 server 62 and protocol converter 65) abstraction layer comprising a

set of operations callable by ones of data exchange protocol modules in response to

receipt by the client data exchange protocol modules of process data access requests

(see col.5, lines 35-55, and col.6, lines 7-54). But Dorrance does not explicitly teach

a set of client. However, Lime teaches a set of client (see col.2, lines 43-51, and

col.23, lines 20-40). It would have been obvious to one of ordinary skill in the art at

the time of the invention was made to implement the teachings of Lim into the

computer system of Dorrance to have a set of client because it would have provided

specific functions that can improve and reduce the performance of object in

distributed object system.

4.   As to claim 2, Dorrance teaches the invention as claimed, wherein the set of client

       data exchange protocol modules comprise plug ins (see fig.3).

5.   As to claim 3, Dorrance does not teach a set of client at least one of the data exchange

       protocol plug ins comprises a dynamic plug in. However, Lime teaches a set of client

       (see col.2, lines 43-51, and col.23, lines 20-40). It would have been obvious to one of

       ordinary skill in the art at the time of the invention was made to implement the

       teachings of Lim into the computer system of Dorrance to have a set of client because

it would have provided specific functions that can improve and reduce the

performance of object in distributed object system.

6.   As to claim 4, Dorrance does not teach the invention as claimed, wherein at least one

of the data exchange protocol (see col. 6, lines 15-25) plug ins comprises a static

plug in. However, Lime teaches a set of client (see col.2, lines 43-51, and col.23,

lines 20-40). It would have been obvious to one of ordinary skill in the art at the time

of the invention was made to implement the teachings of Lim into the computer

system of Dorrance to have a set of client because it would have provided specific

functions that can improve and reduce the performance of object in distributed object

system.

7.   As to claim 5, Dorrance teaches the invention as claimed, wherein the set of protocol

conversion modules comprise both static and dynamic plug ins (see Fig.3, Protocol

converter 65).

8.   As to claim 6, Dorrance teaches the invention as claimed, wherein ones of the data

exchange protocol modules handle data access requests from client applications in

accordance with particular client data exchange protocols (see col.6, lines 15-39).

But Dorrance does not explicitly teach a set of client. However, Lime teaches a set of

client (see col.2, lines 43-51, and col.23, lines 20-40). It would have been obvious to

one of ordinary skill in the art at the time of the invention was made to implement the

teachings of Lim into the computer system of Dorrance to have a set of client because

it would have provided specific functions that can improve and reduce the

performance of object in distributed object system.

9.   As to claim 7, Dorrance teaches the invention as claimed, further including: a loading

mechanism for determining a presence of at least one of the set of client data

exchange protocol modules upon a machine for executing the process data access

server, and loading the at least one client data exchange protocol module during a

startup process that integrates the at least one client data exchange module with the

data access server engine (fig.3).

10.   As to claim 8, Dorrance teaches the invention as claimed, wherein the set of

operations of the data access server engine includes at least one operation callable by

at least two distinct ones of the set of client data exchange protocol modules that

incorporate distinct data exchange protocols (fig.3, protocol converter 65).

11. . As to claim 9, Dorrance teaches the invention as claimed, wherein an operational data

access server including the device protocol interface, the set of client data exchange .

protocol modules, and the data access server is created by a start-up process that

builds the operational data access server from previously installed program files, and

wherein the program files of the client data exchange protocol modules and the data

access server are independently designateable with regard of one another (fig.3, see

col.6, lines 15-39).

12.   As to claim 10, Dorrance teaches the invention as claimed, wherein the set of

interface operations executable by the data access server engine includes an

asynchronous data read operation for providing data from an identified data source in

response to a client application data request (see 7, lines 24-54).

13.   As to claim 11, Dorrance teaches the invention as claimed, wherein the set of

interface operations executable by the data access server engine includes a

synchronous read operation that, in accordance with a timer duration expiration event,

updates identified process data values via the device protocol interface (see col.42-

55).

14.   As to claim 12, Dorrance teaches the invention as claimed, wherein the synchronous

read operation discards an updated process data value for a data item that is

determined to be unchanged from a current stored value for the data item, thereby

avoiding transmissions of unchanged data values between the process data access

server and requesting client applications (Fig.3, server 62).

15.   As to claim 13, Dorrance teaches the invention as claimed, wherein the set of

interface operations executable by the data access server engine includes a group

creation operation that creates a first logical group containing a first set of data items

(see col. 8, lines 1-22).

16.   As to claim 14, Dorrance teaches the invention as claimed, wherein a second logical

group containing a second items is includable as an item within the first logical group

containing the first items (see col.7, lines 12-23). But Dorrance does not explicitly

teach a set of client. However, Lime teaches a set of client (see col.2, lines 43-51,

and col.23, lines 20-40). It would have been obvious to one of ordinary skill in the

art at the time of the invention was made to implement the teachings of Lim into the

computer system of Dorrance to have a set of client because it would have provided

specific functions that can improve and reduce the performance of object in

distributed object system.

17.   As to claim 15, Dorrance teaches the invention as claimed, wherein the set of

interface operations executable by the data access server engine includes a group

remove operation that removes a specified group from the process data access server

(Fig.2).

18.   As to claim 16, Dorrance teaches the invention as claimed, wherein the set of

interface operations executable by the data access server engine includes operations

for modifying the contents of the first logical group (see col.7, lines 24-55).

19.   As to claim 17, Dorrance teaches the invention as claimed, wherein the set of

interface operations executable by the data access server engine includes a write

operation to a specified data item accessible by the process data access server (fig.3,

server 62).

20.   As to claim 18, Dorrance teaches the invention as claimed, wherein the set of

interface operations includes a data reference structure search operation that returns a

data item reference corresponding to a data item value accessible by the client

applications via the process data access server (see col.6, lines 40-54).

21.   As to claim 19, Dorrance teaches the invention as claimed, wherein the data item

reference is a handle (Fig.3).

22.   As to claim 20, Dorrance teaches the invention as claimed, wherein the set of

interface operations includes an error code generator that supplies error code text to a

requesting client data exchange protocol module (Fig.3).

23.   As to claim 21, Dorrance teaches the invention as claimed, wherein the set of

interface operations includes a status reporter operation that provides access to a data

structure that stores status values for the process data access server (see col.6, lines

55-67).

24.   As to claim 22, Dorrance teaches the invention as claimed, including a method for

providing, by a data access server, access to process data in a distributed process

control environment in accordance with a client application data exchange protocol

supported by one of a set of client application data exchange protocol modules

installed on the data access server, and wherein the application data exchange

protocol modules invoke a set of data access operations executable by a data access

server engine of the data access server according to a module-engine interface

definition, the method comprising the steps of: receiving, by a first client application

data exchange protocol module of the data access server (see col.6, lines 7-13), a first

client application data access request according to a first data exchange protocol (see

col.6, lines 14-25) (translation protocol); first generating, by the first client

application data exchange protocol module, a first data access operation call for the

data access server engine conforming to the module-engine interface definition,

wherein the first data access operation call corresponds to the first client application

data access request; and executing, by the data access server engine, the first data

access operation call (see col.6, lines 25-67).   But Dorrance does not explicitly teach

a set of client. However, Lime teaches a set of client (see col.2, lines 43-51, and

col.23, lines 20-40). It would have been obvious to one of ordinary skill in the art at

the time of the invention was made to implement the teachings of Lim into the

computer system of Dorrance to have a set of client because it would have provided

specific functions that can improve and reduce the performance of object in

distributed object system.

25.   As to claim 23, Dorrance teaches the invention as claimed, further comprising the

steps of: second generating, by the data access server engine, a response to the first

data access operation call (see col.6, lines 25-39); and third generating, by the first

data exchange protocol module, a response to the first client application data access

request, wherein the response to the first client application data access request

corresponds to the response to the first data access operation call generated by the

data access server engine during the second generating step (see col.6, lines 40-54).

26.   As to claim 24, Dorrance teaches the invention as claimed, further comprising the

steps of: second receiving, by a second client application data exchange protocol

module of the data access server, a second client application data access request

according to a second data exchange protocol (Fig.3, converter 65); and second

generating, by the second client application data exchange protocol module, a second

data access operation call for the data access server engine conforming to the module-

engine interface definition, wherein the second data access operation call corresponds

to the second client application data access request (see col.6, lines 15-54).

27.   As to claim 25, Dorrance teaches the invention as claimed, wherein the first data

access operation call is identical to the second data access operation call (see col.6,

lines 55-68).

28.   As to claim 26, Dorrance teaches the invention as claimed, further comprising the
        step of: receiving, by the first client application data exchange protocol module, a
        request to create a logical group that contains a set of data items representing data
        accessed in the process control environment, and a further request to add a data item
        to the logical group (see col.6, lines 7-54).

29.   As to claim 27, Dorrance teaches the invention as claimed, wherein the first client
        application data access request comprises a subscription query requesting the data
        access server to issue a notification in response to detecting a change to a data value
        associated with the data item within the logical group (see col.5, lines 25-54).

30.   As to claim 28, Dorrance teaches the invention as claimed, wherein the executing step
        comprises forwarding a request for device data to a device protocol interface, and
        wherein the device protocol interface transmits a corresponding data request to a field
        device according to a field device-specific request protocol (Fig.3).

31.   As to claim 29, Dorrance teaches the invention as claimed, further comprising the
        steps of: receiving, by the device protocol interface, a response from the field device
        comprising data corresponding to the data item (col.5, lines 25-55); forwarding, by
        the device protocol interface to the data access server engine, a response message
        including a data value for the data item (fig.3).

32.   As to claim 30, Dorrance teaches the invention as claimed, wherein at least one of the
        data exchange protocol (see col. 6, lines 15-25) plug ins comprises a static plug in.
        However, Lime teaches a set of client (see col.2, lines 43-51, and col.23, lines 20-40).
        It would have been obvious to one of ordinary skill in the art at the time of the

invention was made to implement the teachings of Lim into the computer system of

Dorrance to have a set of client because it would have provided specific functions that

can improve and reduce the performance of object in distributed object system.

33.   As to claim 31, Dorrance teaches the invention as claimed, wherein ones of the set of

client data exchange protocol modules handle data access requests from client

applications in accordance with particular client data exchange protocols (fig.3,

protocol converter 65).

34.   As to claim 32, Dorrance teaches the invention as claimed, wherein the executing step

comprises performing an asynchronous data read operation for providing data from

an identified data source in response to a client application data request (fig.3).

35.   As to claim 33, Dorrance teaches the invention as claimed, wherein the executing step

comprises performing a synchronous read operation that, in accordance with a timer

duration expiration event, updates identified process data values via the device

protocol interface (see col.6, lines 7-54).

36.   As to claim 34, Dorrance teaches the invention as claimed, wherein the synchronous

read operation discards an updated process data value for a data item that is

determined to be unchanged from a current stored value for the data item, thereby

avoiding transmissions of unchanged data values between the process data access

server and requesting client applications (see col.6, lines 15-40).

37.   As to claim 35, Dorrance teaches the invention as claimed, wherein the first data

access operation call comprises a group creation operation that creates a first group

containing a data items (fig.3). But Dorrance does not explicitly teach a set of client.

However, Lime teaches a set of client (see col.2, lines 43-51, and col.23, lines 20-40).
It would have been obvious to one of ordinary skill in the art at the time of the
invention was made to implement the teachings of Lim into the computer system of
Dorrance to have a set of client because it would have provided specific functions that
can improve and reduce the performance of object in distributed object system.

38.   As to claim 36, Dorrance teaches the invention as claimed, further comprising
executing, by the data access server engine, a second data access operation call that
adds a second logical group containing a second items as a group item within the first
group (see col.6, lines 7-39).   But Dorrance does not explicitly teach a set of client.
However, Lime teaches a set of client (see col.2, lines 43-51, and col.23, lines 20-40).
It would have been obvious to one of ordinary skill in the art at the time of the
invention was made to implement the teachings of Lim into the computer system of
Dorrance to have a set of client because it would have provided specific functions that
can improve and reduce the performance of object in distributed object system.

39.   As to claim 37, Dorrance teaches the invention as claimed, further comprising
executing, by the data access server engine, a second data access operation call that
removes a specified group from the data access server (fig.3, server 62).

40.   As to claim 38, Dorrance teaches the invention as claimed, further comprising
executing, by the data access server engine, a second data access operation call to
modify contents of the first logical group (Fig.3, server 62).

41.   As to claim 39, Dorrance teaches the invention as claimed, wherein the first data

        access operation call comprises a write operation to a specified data item accessible

        by the data access server (fig.3, server 62)

42.   As to claim 40, Dorrance teaches the invention as claimed, wherein the first data

        access operation call comprises a data reference structure search operation that

        returns a data item reference corresponding to a data item value accessible by the

        client applications via the process data access server (fig.3, server 62).

43.   As to claim 41, Dorrance teaches the invention as claimed, wherein the data item

        reference is a handle (fig.3).

44.   As to claim 42, Dorrance teaches the invention as claimed, wherein the first data

        access operation call comprises an error code generator operation that supplies error

        code text to the requesting client data exchange protocol module (see col.6, lines 15-

        54).

45.   As to claim 43, Dorrance teaches the invention as claimed, wherein the first data

        access operation call comprises a status reporter operation that provides access to a

        data structure that stores status values for the data access server. (See col.6, lines 55-

        67).

46.   As to claim 44, Dorrance teaches the invention as claimed, including a method for

        activating a data access server through a start-up process that builds the data access

        server from previously installed program files including at least an executable file

        incorporating a data access server engine and a separate and distinct file containing

        one or more of a set of client application data exchange protocol modules installed on

the data access server and wherein the application data exchange protocol modules

invoke a set of data access operations executable by the data access server engine of

the data access server according to a module-engine interface definition, the method

comprising the steps of: starting up an executable corresponding to the data access

server and including the data access server engine (see fig.3, server 62); loading client

application data exchange protocol modules thereby creating program links between

at least one of the protocol modules and the data access server executable (see col.6,

lines 6-67); and instantiating a data access server object corresponding to a

connection between the data access server and a requesting client application (see

col.7, lines 24-67). But Dorrance does not explicitly teach a set of client. However,

Lime teaches a set of client (see col.2, lines 43-51, and col.23, lines 20-40). It would

have been obvious to one of ordinary skill in the art at the time of the invention was

made to implement the teachings of Lim into the computer system of Dorrance to

have a set of client because it would have provided specific functions that can

improve and reduce the performance of object in distributed object system.

47.   As to claim 45, Dorrance teaches the invention as claimed, wherein the set of client

        data exchange protocol modules comprise plug ins (see fig.3).

48.   As to claim 46, Dorrance does not teach a set of client at least one of the data

        exchange protocol plug ins comprises a dynamic plug in. However, Lime teaches a

        set of client (see col.2, lines 43-51, and col.23, lines 20-40). It would have been

        obvious to one of ordinary skill in the art at the time of the invention was made to

        implement the teachings of Lim into the computer system of Dorrance to have a set of

client because it would have provided specific functions that can improve and reduce the performance of object in distributed object system.

49.   As to claim 47, Dorrance does not teach the invention as claimed, wherein at least one of the data exchange protocol (see col. 6, lines 15-25) plug ins comprises a static plug in. However, Lime teaches a set of client (see col.2, lines 43-51, and col.23, lines 20-40). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teachings of Lim into the computer system of Dorrance to have a set of client because it would have provided specific functions that can improve and reduce the performance of object in distributed object system.

50.   As to claim 48, Dorrance teaches the invention as claimed, wherein the set of protocol conversion modules comprise both static and dynamic plug ins (see Fig.3, Protocol converter 65).

51.   As to claim 49, Dorrance teaches the invention as claimed, wherein ones of the data exchange protocol modules handle data access requests from client applications in accordance with particular client data exchange protocols (see col.6, lines 15-39). But Dorrance does not explicitly teach a set of client. However, Lime teaches a set of client (see col.2, lines 43-51, and col.23, lines 20-40). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement the teachings of Lim into the computer system of Dorrance to have a set of client because it would have provided specific functions that can improve and reduce the performance of object in distributed object system.

52.   As to claim 50, Dorrance teaches the invention as claimed, wherein the set of

operations of the data access server engine includes at least one data access operation

callable by at least two distinct ones of the set of client data exchange protocol

modules that incorporate distinct data exchange protocols (see col.6, lines 3-55).

(10) Response to Argument

- Appellant argues that Dorrance does not teach or suggest "set of client data

    exchange protocol module".

Examiner respectfully disagrees. Applicant argument is vague. Dorrance discloses

data exchange protocol modules as shown in Fig.3, protocol converter 65 and col.6,

lines 7-25.   However, Dorrance does not explicitly teach a set of client. However,

Lime teaches a set of client as shown in col.2, lines 43-51, and col.23, lines 20-40. It

would have been obvious to one of ordinary skill in the art at the time of the invention

was made to implement the teachings of Lim into the computer system of Dorrance to

have a set of client because it would have provided specific functions that can

improve and reduce the performance of object in distributed object system [see Lim,

col. 1, line 31 to col. 2, line 26].

- Appellant argues that Dorrance does not teach or suggest, " process Data Access

    Server".

Examiner respectfully disagrees. Dorrance discloses a process data access server as

shown in col. 6, lines 6-14 (when a server begins to receive a request for messages,

the process of server initiate request receiving which begins may be triggered).

- Appellant argues that Dorrance does not teach " plugin".

Examiner respectfully disagrees. Dorrance discloses plugin as shown in col. 4, lines 1-20.

- Appellant argues that Dorrance does not disclose "a set of protocol specific modules".

Examiner respectfully disagrees. Dorrance discloses a set of protocol specific modules as shown in col.6, lines 44-49.

- Appellant argues that Dorrance does not disclose "converters".

Examiner respectfully disagrees. Dorrances discloses converters as shown in fig.3 and col. 4, line 59 to col. 5, line 15.

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

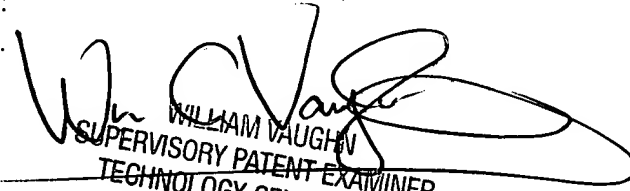For the above reasons, it is believed that the rejections should be sustained.
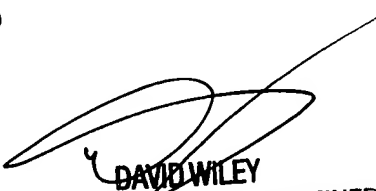
Respectfully submitted,

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Conferees:

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